IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPEAL BRIEF – 37 C.F.R § 1.192

U.S. Patent Application 10/029,928 entitled:

"RESIDENTIAL GATEWAY SYSTEM FOR AUTOMATED CONTROL OF RESIDENTIAL DEVICES"

Real Party in Interest: Southern Bell Communication Services, Inc.

Related Appeals and Interferences:

None

Status of Claims:

- Claims 29-43 are pending.
- Claims 1-28 were previously cancelled.
- Claims 29-43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,437,692 (Petite), in view of U.S. 6,314,340 (Mecham).
- Claims 29-43 are hereby appealed.

Status of Amendments:

No amendments were submitted after the Final Office Action of 10/26/2006.

Summary of Claimed Subject Matter:

(NOTE: All citations are made from the original specification, including the figures.)

Claim 29 provides for a residential gateway **(see figure 1, element 100; page 5, line 16-17 of application-as-filed)** that connects a Wide Area Network (WAN) **(e.g., figure 1, Internet cloud 114)** to an in-home network, said residential gateway connecting at least one residential device **(see figure 1, element 107 of application-as-filed)** over said in-home network, the residential gateway: forwarding state information of said at least one residential device to a control server over said WAN **(see page 6, lines 17-19 of application-as-filed)**; forwarding economic setpoint information to said control server over said WAN **(see page 7, lines 6-13 of application-as-filed)**; receiving control parameters from said control server over said WAN, said control parameters determined by the control server based on at least the following information:

relevant control information accessed from one or more climatic information providing servers **(see figure 1, element 116 and page 6, lines 14-16 of application-as-filed)** on said WAN, said forwarded state information of said at least one residential device and said forwarded economic setpoint information, whereby said residential gateway controls said at least one residential device based on said received control parameters **(see page 6, 19-21 of application-as-filed)**.

Claim 30 teaches a residential gateway according to claim 29, wherein said at least one residential device is a home irrigation system **(see figure 2, element 207 of application-as-filed)** comprising: an irrigation controller connected to said residential gateway; and at least one sprinkler **(see figure 2, element 208 of application-as-filed)** connected to said irrigation controller **(see figure 2 and accompanying description on pages 7-10 of application-as-filed)**.

Claim 31 teaches a home irrigation system as per claim 30, wherein watering cycle constitutes said control parameters for said home irrigation system **(see figure 2 and accompanying description on pages 7-10 of application-as-filed)**.

Claim 32 teaches a home irrigation system according to claim 31, wherein said watering cycle is also determined based on said economic setpoint information **(see page 7, lines 6-13 of application-as-filed)**.

Claim 33 teaches a residential gateway according to claim 29, wherein said economic setpoint information is set to control amount of electricity or water used by said at least one residential device during a particular time period **(see page 7, lines 6-13 of application-as-filed)**.

Claim 34 teaches a home irrigation system as per claim 30, wherein said irrigation controller is connected to said residential gateway via an IEEE 802.11b wireless interface **(see page 7, limes 19-20 of application-as-filed)**.

Claim 35 teaches a residential gateway as per claim 29, wherein said Wide Area Network is the Internet **(e.g., figure 1, Internet cloud 114)**.

Claim 36 teaches a control server **(see figure 1, element 118 of application-as-filed)** connected to a residential gateway **(see figure 1, element 110 of application-as-filed)** via a Wide Area Network (WAN) **(e.g., figure 1, Internet cloud 114)** to control at least one residential device **(see figure 1, element 107 of application-as-filed)** connected to said residential gateway, said control server: retrieving relevant control information from one or more climatic information providing servers on said WAN **(see page 6, lines 14-16 and page 9, lines 1-7 of application-as-filed)**; receiving state information of said at least residential device from said residential gateway **(see page 6, lines 17-19 of application-as-filed)**; receiving economic setpoint information from said residential gateway **(see page 7, lines 6-13 of application-as-filed)**; determining control parameters to control said at least one residential device based on at least the following information: said received state information, said retrieved relevant control information, and said received economic setpoint information **(see page 6, lines 19-21 of application-as-filed)**; communicating said control parameters to said residential gateway via said WAN; wherein said residential gateway communicates with said at least one residential device to provide control of the residential device based on said control parameters **(see page 6, lines 19-21 of application-as-filed)**.

Claim 37 teaches a control server according to claim 36, wherein said at least one residential device is a home irrigation system **(see figure 2, element 207 of application-as-filed)** comprising: an irrigation controller connected to said residential gateway **(see figure 2, element 208 of application-as-filed)**; and at least one sprinkler connected to said irrigation controller **(see figure 2 and accompanying description on pages 7-10 of application-as-filed)**.

Claim 38 teaches a home irrigation system according to claim 37, wherein a watering cycle constitutes said control parameters for said home irrigation system **(see figure 2 and accompanying description on pages 7-10 of application-as-filed)**.

Claim 39 teaches a home irrigation system according to claim 38, wherein said watering cycle is also determined based on said economic setpoint information **(see page 7, lines 6-13 of application-as-filed)**.

Claim 40 teaches a control server according to claim 36, wherein said economic setpoint information is set to control amount of electricity or water used by said at least one residential device during a particular time period **(see page 7, lines 6-13 of application-as-filed)**.

Claim 41 teaches a control server according to claim 37, wherein said irrigation controller is connected to said residential gateway via an IEEE 802.11b wireless interface **(see page 7, limes 19-20 of application-as-filed)**.

Claim 42 teaches a control server as per claim 36, wherein said Wide Area Network is the Internet **(e.g., figure 1, Internet cloud 114)**.

Claim 42 teaches an article of manufacture comprising a computer usable medium having computer readable program code embodied therein which provides determining control parameters by a control server **(see figure 1, element 118 of application-as-filed)**, said medium comprising: computer readable program code aiding in retrieving relevant control information from one or more climatic information providing servers on said WAN **(see page 6, lines 14-16 and page 9, lines 1-7 of application-as-filed)**; computer readable program code aiding in receiving state information of said at least residential device from said residential gateway **(see page 6, lines 17-19 of application-as-filed)**; computer readable program code aiding in receiving economic setpoint information from said residential gateway **(see page 7, lines 6-13 of application-as-filed)**; computer readable program code determining control parameters to control said at least one residential device based on at least the following information: said received state information, said retrieved relevant control information, and said received economic setpoint information **(see page 6, lines 19-21 of application-as-filed)**; and computer readable program code aiding in communicating said control parameters to said residential gateway via said WAN, said residential gateway communicating with said at least one residential device to provide control of the residential device based on said control parameters **(see page 6, lines 19-21 of application-as-filed)**.

Grounds of Rejection to be Reviewed on Appeal:

1. Claims 29-43 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 6,437,692 (Petite), in view of U.S. 6,314,340 (Mecham). Was a proper rejection made under 35 U.S. C. § 103(a) using existing USPTO guidelines with respect to claims 29-43?

ARGUMENT:

Claims 29-43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,437,692 (Petite), in view of U.S. 6,314,340 (Mecham). Was a proper rejection made under 35 U.S. C. §103(a) using existing USPTO guidelines with respect to claims 29-43?

REJECTIONS UNDER 35 U.S.C. § 103(a)

To establish a prima facie case of obviousness under U.S.C. § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Additionally, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

The Petite reference is directed to a system for monitoring, reporting and controlling remote devices by transmitting information to a gateway interface and using applications on a connected server to process such information. The server, along with a database, collects, formats and stores client-specific data received from transceivers associated with remote devices for later retrieval.

The Mecham reference discloses an irrigation controller that irrigates the site to satisfy watering needs of the vegetation based on a net evapotranspiration value determined by the irrigation controller.

With respect to independent claims 29, 36 and 43, in the Office Action of 10/26/2006, the Examiner maintains that the Petite reference, in column 13, lines 19-30 teaches economic setpoint information forwarded to a control server over said WAN. Column 13, lines 19-30 are reproduced below:

> "Additionally, server 260 may be configured to communicate data to operate spray head 817 by opening water supply valve 816 integrated with actuator 814 by sending a control signal to transceiver 815, per a **client directed water application control schedule**. Alternatively, a customer workstation 250 could periodically download and review the rain gauge data and could initiate an automatic **control signal appropriate with the customer's watering requirements**. In yet another embodiment, a customer technician could initiate a control signal upon review of the rain gauge information and making the determination that more water is required." (emphasis added).

It can be seen from the above-reproduced citation that Petite merely teaches a **control**

server provides signals to operate a spray head based on "a client directed water schedule" or "customer watering requirements". Applicant has repeatedly requested the Examiner in numerous Office Action responses to identify where in this citation is there a teaching for the use of an "**economic**" parameter and have also repeatedly asked the Examiner to specifically point out where in this citation (or in the entire Petite reference) is there a suggestion that the client directed water schedule be based on economic/financial parameters which would keep the cost of the water/electricity usage of an irrigation system low (as described in page 9, lines 9-16 of applicant's application). The Applicant wishes to note that such a teaching is also absent from the Mecham reference. Absent such a showing, the Petite reference, either singly or used in combination with Mecham, cannot anticipate or render obvious Applicant's independent claims 29, 36 and 43.

With respect to independent claims 29, 36 and 43, relying on the previous Office Action of 5/19/2006, the Examiner asserts that the Petite reference, in column 13, lines 8-30 teaches determining control parameters by control sever based on forwarded economic setpoint information. Column 13, lines 8-30 of Petite merely mentions **transmitting rainfall and water information to a server for viewing or retrieval upon client demand and states that a control server provides signals to operate a spray head based on "a client directed water schedule" or "customer watering requirements"**. Applicant wishes to reiterate once again that the Applicant is unsure how the Examiner has equated the "**economic** setpoint information" feature of Applicants' pending claims to the "client directed water schedule" of the Petite reference. The Petite reference also does not provide any citations that teach or suggest the use of

economization of resources by the control server when controlling the residential devices. The Applicant wishes to note that such a teaching is also absent from the Mecham reference. Absent such a showing, the Petite reference, either singly or used in combination with Mecham, cannot anticipate or render obvious Applicant's independent claims 29, 36 and 43.

In the response of 10/26/2006, the Examiner once again avoids pointing out where such features can be found, but instead relies on an argument that what was argued is not recited in the claims. Applicant respectfully disagrees. For example, the Board is respectfully requested to review independent claim 29, 36, and 43 which specifically recite a control server determining control parameters from, inter alia, forwarded **economic** setpoint information. The Board is also respectfully requested to review dependent claims 33 and 40 which specifically recite that "**economic** setpoint information is set to control amount of electricity or water used by said at least one residential device during a particular time period." The Examiner throughout the prosecution of this case has repeatedly failed to specifically show where such features are shown or suggested by either the Petite or Mecham reference.

Further, Applicant wishes to note that the Examiner in page 4 of a previous office action dated 3/25/2005 is correctly interprets that Petite reference does not disclose control parameters as a water cycle of the irrigation system based upon an economic setpoint. However, in the latest office action, the Examiner appears to have reversed his position to mention that the Petite reference does disclose determining the watering cycle based in forwarded economic setpoint information. However, as shown in this response, Petite and/or Mecham fail to teach an

"economic" setpoint and, hence, cannot render obvious Applicant's claims.

The Examiner maintains that the Mecham reference, in column 1, lines 43-48 teaches determining control parameters by control sever based on relevant control information accessed from one or more climatic information providing servers on said WAN. The Mecham reference provides no teaching or suggestion that the irrigation controller of the Mecham reference receives climatic information over a WAN and controls the watering needs of vegetation based on this information. It should be noted that the Mecham reference teaches away from such a setup where an irrigation controller or server receives climatic information from a server. For example, the Board is respectfully requested to review column 3, lines 26 column 4, line 6 of Mecham which specifically state that Mecham's invention uses the "Hargreaves equation". The Board is respectfully requested to review column 2, lines 11-46 which introduces the "Hargreaves equation" as an "evapotranspiration formula" that can be used at a "specific site" "but do not require access to large amounts of specific weather station collected climatic information". Mecham's own statements reveal that their setup is specifically used in a scenario that avoids having to access climatic information. Such a teaching contradicts the Examiner's assertion that "it would have been obvious to also use information from a climatic information providing server" according to the teaching of Mecham.

Further, the Examiner appears to use hindsight and has provided no evidence as to how or why the teachings of Petite and Mecham can be combined. Specifically, the Examiner has failed to point out, **with evidence**, how Petite's control server determines control parameters based on

information received from climatic information providing servers, state information **and** economic setpoint information. It appears that the Examiner has used hindsight analysis to justify the 35 U.S.C. §103 rejection that a control server can determine control parameters based on information received from climatic information providing servers, state information **and** economic setpoint information. Applicant maintains that such a control server **cannot** be rendered obvious by the teachings of Mecham and Petite. Absent such a showing, the Mecham reference, either singly or used in combination with Petite, cannot anticipate or render obvious Applicant's pending independent claims 29, 36 and 43.

Applicant wishes to note that, in order to establish a case of prima facie obviousness, there must also be shown a motivation to combine the teachings of the cited references, namely Mecham and Petite. To that end, some suggestion of the desirability to combine the references must be found and demonstrated in the references. This burden cannot be satisfied by simply asserting that the modification would have been "well within the ordinary skill of the art."

As the CAFC stresses for a §103 rejection to stand, the Examiner is required to show with evidence the motivation, suggestion or teaching of the desirability of making the specific combination at issue. That evidence is required to counter the powerful attraction of a hindsight-based obviousness analysis. See, for example, In re Lee, 277 F.3d 1338, 1343, 61 U.S.P.Q. 2d 1430, 1433 (Fed. Cir. 2002) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references"). It is

respectfully submitted that this involves more than a mere bold assertion that it would be obvious to combine the cited references. With respect, the Examiner has failed to provide any evidence as to why one of ordinary skill in the art would be motivated to combine the teachings of Petite and Mecham. In re Lee requires that the record must state with particularity all the evidence and rationale on which the PTO relies for a rejection and sets out that it is necessary to explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.

Under Lee, the PTO must state in writing the evidence on which it bases its rejection. With respect, the present office action falls short of this requirement.

Applicant submits that there is no suggestion of the desirability to combine the Petite and Mecham references, nor is there any motivation demonstrated in either of the references to combine them, nor is there any suggestion in either reference to adapt their teachings to provide the unique features of the present invention. Applicant also respectfully submits that the Examiner has failed to show, with evidence, a motivation, suggestion or teaching of the desirability of making the specific combination at issue.

Hence, the Applicant contends that the Petite and Mecham references singly or in combination fail to teach or suggest a control server determining control parameters based on information received from climatic information providing servers, state information of residential device(s), and economic setpoint information. Furthermore, the Petite and Mecham

references singly or in combination also fail to teach or suggest the gateway controlling the residential devices based on these control parameters.

Therefore, Applicant contends that the independent claims 29, 36 and 43 are not anticipated or rendered obvious by the art of record. Applicant, therefore, submits that an improper rejection was issued with respect to independent claims 29, 36 and 43. The above-mentioned arguments substantially apply to dependent claims 30-35 and 37-42. Applicant, therefore, also submits that an improper rejection was issued with respect to dependent claims 30-35 and 37-42.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicant's presently claimed invention, nor render them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

As this Appeal Brief has been timely filed within the set period of response, no fee for extension of time is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided, including extension of time, to Deposit Account No. 50-4098.

Respectfully submitted by
Applicant's Representative,

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Claims Appendix:

29. (Previously Presented) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, said residential gateway connecting at least one residential device over said in-home network, the residential gateway:

forwarding state information of said at least one residential device to a control server over said WAN;

forwarding economic setpoint information to said control server over said WAN;

receiving control parameters from said control server over said WAN, said control parameters determined by the control server based on at least the following information: relevant control information accessed from one or more climatic information providing servers on said WAN, said forwarded state information of said at least one residential device and said forwarded economic setpoint information,

whereby said residential gateway controls said at least one residential device based on said received control parameters.

30. (Previously Presented) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, as per claim 29, wherein said at least one residential device is a home irrigation system comprising:

an irrigation controller connected to said residential gateway; and

at least one sprinkler connected to said irrigation controller.

31. (Previously Presented) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, as per claim 30, wherein a watering cycle constitutes said control parameters for said home irrigation system.

32. (Previously Amended) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, as per claim 31, wherein said watering cycle is also determined based on said economic setpoint information.

33. (Previously Presented) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, as per claim 29, wherein said economic setpoint information is set to control amount of electricity or water used by said at least one residential device during a particular time period.

34. (Previously Presented) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, as per claim 30, wherein said irrigation controller is connected to said residential gateway via an IEEE 802.11b wireless interface.

35. (Previously Presented) A residential gateway that connects a Wide Area Network (WAN) to an in-home network, as per claim 29, wherein said Wide Area Network is the Internet.

36. (Previously Presented) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, said control server:

retrieving relevant control information from one or more climatic information

providing servers on said WAN;

receiving state information of said at least residential device from said residential gateway;

receiving economic setpoint information from said residential gateway;

determining control parameters to control said at least one residential device based on at least the following information: said received state information, said retrieved relevant control information, and said received economic setpoint information;

communicating said control parameters to said residential gateway via said WAN;

wherein said residential gateway communicates with said at least one residential device to provide control of the residential device based on said control parameters.

37. (Previously Presented) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, as per claim 36, wherein said at least one residential device is a home irrigation system comprising:

an irrigation controller connected to said residential gateway; and

at least one sprinkler connected to said irrigation controller.

38. (Previously Presented) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, as per claim 37, wherein a watering cycle constitutes said control parameters for said home irrigation system.

39. (Previously Amended) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, as per claim 38, wherein said watering cycle is also determined based on said economic setpoint information.

40. (Previously Presented) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, as per claim 36, wherein said economic setpoint information is set to control amount of electricity or water used by said at least one residential device during a particular time period.

41. (Previously Presented) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, as per claim 37, wherein said irrigation controller is connected to said residential gateway via an IEEE 802.11b wireless interface.

42. (Previously Presented) A control server connected to a residential gateway via a Wide Area Network (WAN) to control at least one residential device connected to said residential gateway, as per claim 36, wherein said Wide Area Network is the Internet.

43. (Previously Presented) An article of manufacture comprising a computer usable medium having computer readable program code embodied therein which provides determining control parameters by a control server, said medium comprising:

computer readable program code aiding in retrieving relevant control information from one or more climatic information providing servers on said WAN;

computer readable program code aiding in receiving state information of said at least residential device from said residential gateway;

computer readable program code aiding in receiving economic setpoint information from said residential gateway;

computer readable program code determining control parameters to control said at least one residential device based on at least the following information: said received state information, said retrieved relevant control information, and said received economic setpoint information; and

computer readable program code aiding in communicating said control parameters to said residential gateway via said WAN, said residential gateway communicating with said at least one residential device to provide control of the residential device based on said control parameters.

Evidence Appendix

None

Related Proceedings Appendix

None